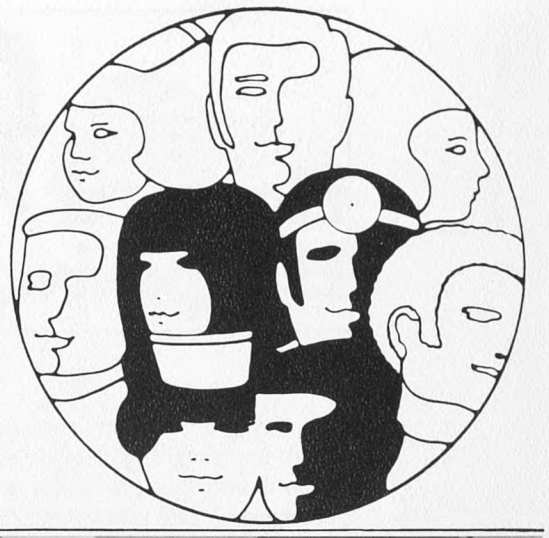
BARNES
Barnes Medical Center, St. Louis, Mo.
HOSPITAL
August, 1972
BULLETIN



Patient Charges Are Lowered For Several Laboratory Tests

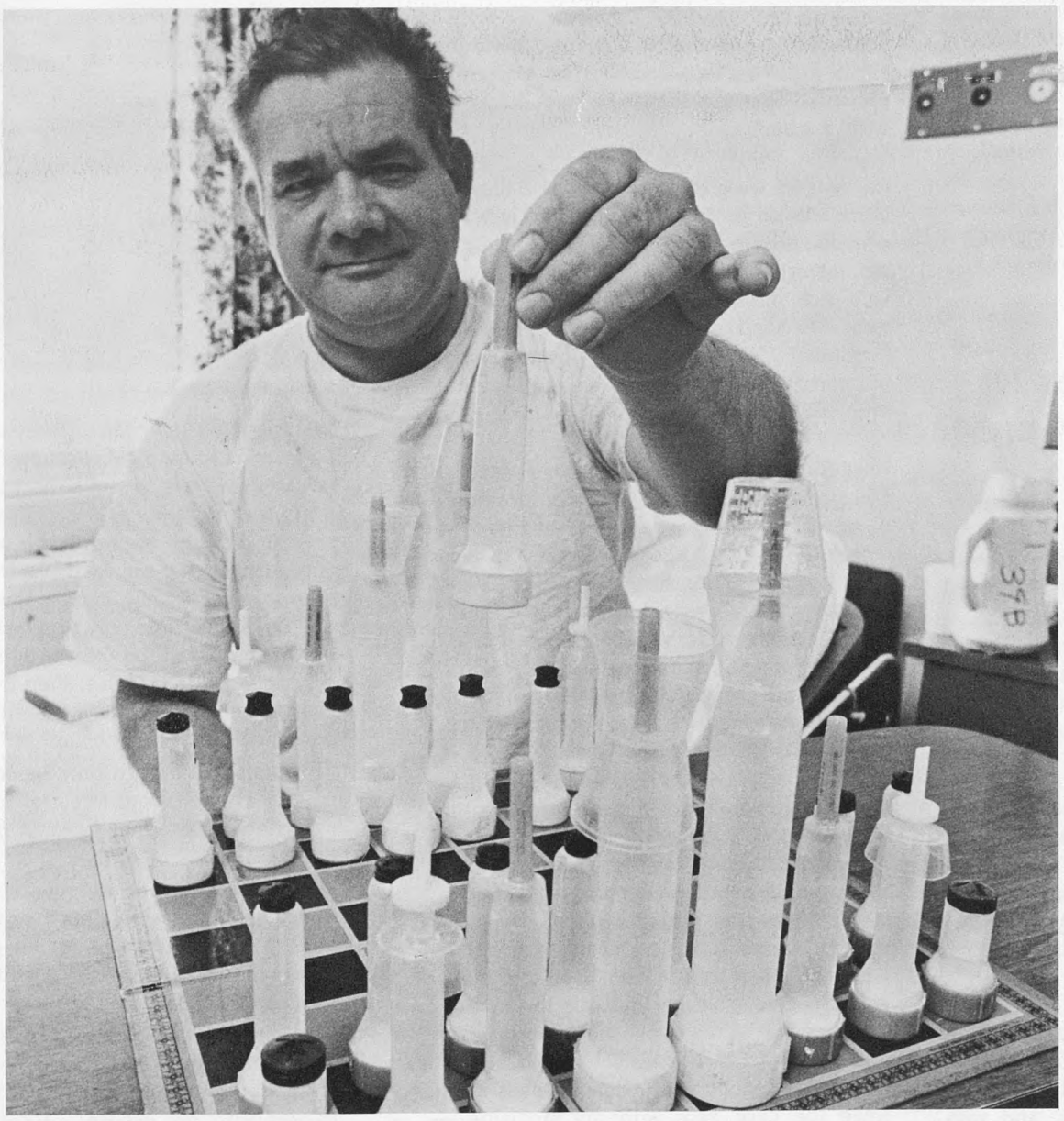
Charges to Barnes patients have been reduced, as of July 1, for more than twenty laboratory determinations, including several multi-channel chemistry profiles. (Automated procedures in which one blood sample is analyzed for 6 to 18 possible abnormalities.)

In making this announcement, Robert E. Frank, Barnes Director, explained that the rate reductions were made possible by a combination of favorable conditions in the hospital.

"During the first five months of 1972," Mr. Frank explained, "we have had 3,597 more patient days than had been anticipated. A large portion of the hospital's costs are relatively 'fixed,' so that the additional patient occupancy was accommodated with only limited additional cost." "Also, the efficiency of Barnes Hospital's laboratories, largely the result of automation, contributed to the favorable financial picture," added Mr. Jay Purvis, Barnes assistant director, who works with the laboratories.

"As a result of this favorable situation, the benefit is being returned to the community in the form of lower rates. To help as many patients as possible, high volume laboratory tests were selected for price reductions because almost every patient has these items on his bill and they frequently are not covered by the patient's insurance," Mr. Frank said.

Data processing control clerk Cecilia Pelly uses this machine to separate the hundreds of patient bills which are compiled here every day.



Re-cycled Containers Make Unique Chess Set

Mr. Robert Garrett became bored with lying in bed and watching television while a patient on Rand-Johnson's 10th floor late last month. With the Russian-American chess match in full swing, he decided to make a chess set from disposable plastic containers that are normally discarded. With the help of hospital personnel he was able to gather enough different types of containers to create all the necessary pieces. Plaster of paris in each piece's base prevents them from toppling over.

New Blue Cross, Blue Shield Policies Here

Improved Blue Cross and Blue Shield coverage and revised rates became effective here on August 1, according to Walter Hanses, personnel director. The coverage and rate revisions apply to all present policyholders as well as to new members.

Rate calculations based on the benefits used by Barnes employes last year (compared to the benefits used by other groups in the area receiving similar coverage) revealed that there would be a reduction in Blue Cross dues for individual and family coverage. Consequently, it was felt that now would be an excellent time to upgrade coverage, and an outpatient diagnostic rider was added to the Blue Cross policy.

"These Blue Cross dues for our employes represent only 50 per cent of the actual cost of the protection. Barnes Hospital pays the rest. For example, the total Blue Cross dues for an individual are $12.04 per month and for an employe and dependents $32.18 per month. But the hospital pays half of this amount for the employe," Mr. Hanses points out.

Under the new, expanded coverage, the employe's portion of the rates for an individual (under age 65) are now $6.02 per month. Coverage for an employe and dependents (all under 65) now costs $16.09 per month.

Blue Shield coverage has also been upgraded from the Superior 200 policy to Superior 350. The 350 policy provides up to $350 for specified surgical procedures. The cost of the new coverage is now $2.88 per month for an individual; for an employe and dependents, $6.75 per month.

Mrs. Pollie Richardson, an escort messenger on the day shift, has been selected messenger of the month for July by the dispatch department. She was chosen for her above average production and interest in her work. Mrs. Richardson, who has one daughter, enjoys volleyball, softball and bicycling.

A $5,000 grant for research on blinding diseases has been made to the Washington University School of Medicine's ophthalmology department. The award provides funds for clinical and basic research in such diseases as cataract, glaucoma and diabetic retinopathy.

Dr. Bernard Becker, Barnes Ophthalmologist-in-Chief and head of the department, said that $60,000 in funds for such research has been received from Research to Prevent Blindness, Inc. over the past 12 years. "The unrestricted nature of the funds enables us to take immediate advantage of scientific opportunities that otherwise would be missed or postponed," Dr. Becker said.

Barnes is one of six Missouri hospitals that will share in a $600,000 grant approved by the Missouri legislature for the fight against kidney disease. $158,000 of the grant will go to Barnes Hospital-Washington University. The money is to be applied primarily to use by those persons who cannot afford expensive artificial kidney machine treatment. Emphasis is to be placed on training patients in the use of home dialysis equipment.

$170,753 Grant For New Cancer Research Center

Dr. Philip W. Majerus, Barnes associate physician, has been named planning coordinator for the establishment of a major cancer treatment, research and training center here to be financed in part by a two-year, $170,753 grant to the Washington University School of Medicine from the National Institutes of Health. Dr. Carl V. Moore, physician-in-chief at Barnes, will be director of the new cancer center, which will become partially operational next year.

The grant is for exploratory studies leading to the establishment of the facility. The major portion of the money will be applied toward planning and architectural consultation. The McDonnell Medical Sciences building will house the new facility on three "shell" floors already awaiting such expansion.

Dr. Majerus said the center will be a multi-departmental effort, adding, "We will be directing our efforts toward patient care as well as clinical and basic research, and with developing post-graduate, doctoral and post-doctoral training programs."

Dr. Majerus is also professor of medicine and assistant professor of biological chemistry at Washington University.

Up, Up and Away (and back again)

Nurse Was Aboard Skyjacked Flight

Barnes nurse Barbara Bailey always had a few fantasies about flying to Cuba or Nigeria on a skyjacked plane when she booked vacation flights to Miami or other far-away places.

But one day last month when she wearily climbed aboard an American Airlines flight to Tulsa for a weekend with her parents, she thought about nothing except a quiet visit to her home in Bartlesville, Oklahoma, a short distance from Tulsa.

"I was tired because I was working nights on 3400 and we had had a lot of very sick patients," she recalled. "Usually I drive, but I decided to treat myself to the flight. There were two flights to Tulsa about five minutes apart. One had screening devices to detect concealed weapons. It was just my luck to get on the flight that was without screening."

The flight was a "milk run" between New York and Los Angeles with numerous intermediate stops. Just as the aircraft entered its holding pattern above Tulsa, the captain's voice came over the loudspeaker. He said, "One of our passengers has just invited us to go back to St. Louis—so we will be circling back and returning."

Miss Bailey said his voice was almost casual, so she felt perhaps the reason was a sick passenger who wanted to receive care in St. Louis, or perhaps "J. Paul Getty or someone had left a toothpick behind." She said skyjacking never occurred to her.

Then Barbara Bailey asked the stewardess, "Why are we going back?" The stewardess replied, "Because there's a man back there with a gun."

Passengers were very calm. Miss Bailey said there was no hysteria. "A little old lady who could have been 90 years old sat by me when we moved up front. She was very nice and quite cool when I told her what had happened," the Barnes nurse continued. "But it was funny—when we left the plane she insisted upon taking her umbrella."

Miss Bailey said her own reactions were very low-key. "I didn't feel personally threatened at all. Perhaps if the skyjacker had been closer to me and I'd seen the gun, I would have been more apprehensive." She said the stewardesses were very calm. "I told one of the stewardesses if there were passengers who needed medical attention, that I was a nurse. She thanked me and said she'd call on me if needed. But there was no medical problem for anyone."

Miss Bailey's talk with a stewardess resulted in the skyjacker allowing men with health problems to leave the plane when it landed back in St. Louis the first time. "There was a woman with us up in the front who was determined to take a small case with her when she left the plane. She told me it was medicine for her diabetic husband who was still in the back where the hijacker was holding his hostages. I said, 'If your husband doesn't get off, for goodness sake leave the case here with his medicine,'—but she didn't seem to understand. She was very tense. So I told the stewardess about it and she asked the skyjacker if this man could leave the plane. That was when he gave permission for all men with health problems to leave."

The nurse also recalled with a chuckle that a male passenger told her later, "When the guy said all people who were sick could leave, I decided right then and there that I had a real bad heart problem." He left the plane with the women, children, and ailing men.

The passengers were let off the plane by sliding down an inflatable exiting device. Then they were hustled by airline officials to a room where FBI agents waited to question them. Miss Bailey described the FBI agents as "abrupt." When they found she could not describe the hijacker, they quickly turned away.

"I remained behind the group when they were dismissed because finally I could obtain a phone," she said. "I called my father in Tulsa, and he'd not heard of the hijacking yet. He was quite surprised and even laughed about it when he realized I was safe."

"Then we all got vouchers from the airline to use in the cocktail lounge," she said with a grin. "We soon found that all the passengers waiting for another flight to their destinations were a sort of fraternity. We became a "skyjack club" and got braver and braver as we sat there drinking and talking about what we would have done. It was a lot different when we were on the plane."

RN Barbara Bailey

Several hours later Miss Bailey caught another flight to Tulsa and successfully avoided the newsmen waiting at the airport there for first-hand accounts of the skyjacking. She spent a pleasant weekend with her parents, and said she felt no ill effects from the experience. "A good night's sleep fixed me up," she said. Her only problem was that the airlines used the return flight ticket for her second ride to Tulsa, then tried to charge her for her return flight to St. Louis on Sunday.

"It seemed as though they expected me to pay for my skyjacked ride," she said. "Finally I convinced them that I should ride free on Sunday."

Why no real tension during the flight? "I was traveling alone, so I didn't experience the anxiety shown by some of the people when they left the aircraft with friends and relatives still aboard," she said.

"I only had one crazy thought. 'What will I do if they take me to some out-of-the-way place for several days and I can't call into Barnes with my excuse?' I could see myself saying, 'Look, Mr. Skyjacker, we have this rule at Barnes Hospital that you lose your job if you're absent three days without calling. Could I please get to a phone so that they know on 3400 that I'm coming back?' "

Employe Promotions During 2nd Quarter

Promotions to higher job grades were received by more than 40 Barnes Hospital employes during the second quarter of 1972, according to the Personnel Office. The following list contains the names **in boldface** of those promoted followed by their previous job title and their new job title and department, if applicable.

ACCOUNTING

Howard R. Green, property control clerk to administrative assistant, patient accounts.

ADMINISTRATION

Shirley M. Gmoser, secretary to assistant admitting officer, Barnes doctors' office; **Pat Berryman,** administrative assistant to executive secretary II, Board of Trustees.

ADMITTING

Jill Joshu, patient relations assistant to assistant admitting officer; **Janet Knobbe,** information clerk to cashier; **Lucia Marie Jahsman,** admitting interviewer to patient relations assistant; **Deborah Baker,** information clerk to secretary.

CONTROLLER

Robert E. McAuliffe, controller to associate director, finance.

DATA PROCESSING

Dennis A. Henke, computer operator to lead computer operator.

DIETARY

Michael Ball, dishroom worker-porter to cook's assistant; **Jean Gagliano,** counterwoman to food service hostess; **Vicki Austin,** dietary aide to ECG technician, laboratories.

DISPATCH

Kathryn C. Moore, shuttle runner to telephone operator, dispatch; **Daniel Charles Mertens,** escort messenger to laboratory assistant, laboratories; **Earline J. Conell,** escort messenger to elevator operator; **Mary K. Forister,** elevator operator to ward clerk, nursing service.

HOUSEKEEPING

Willie F. Bragg, mover to rug cleaner; **Thomas L. Bethany,** custodian II to wall-window washer; **Elmer Alberty,** custodian II to wall-window washer; **Henry McCoy,** custodian II to wall-window washer.

INHALATION THERAPY

Donna T. McHugh, non-registered inhalation therapist to staff nurse; **Leslie J. Demme,** technician to non-registered therapist; **John F. Gustavson,** non-registered therapist to supervisor, inhalation therapy.

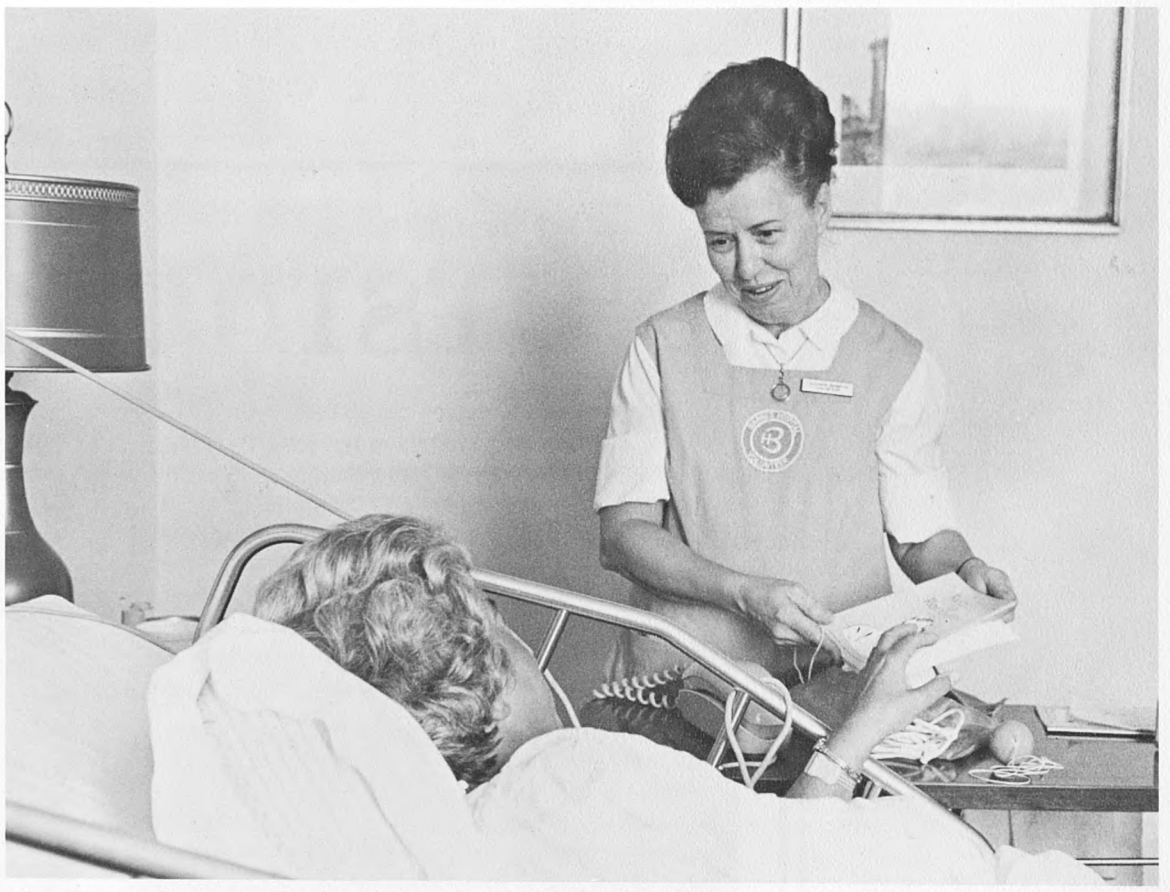
LABORATORIES

Jacqueline Woods, clerk-typist to ECG technician; **Raul Rios-Suarex,** technician to assistant chief technician, laboratories; **Jerry J. Chervitz,** technician to assistant chief technician, laboratories.

LAUNDRY

Nathaniel Tolen, linen sorter to soiled linen pick-up-man; **Bennie Young,** soiled linen pick-up-man to group leader; **Margaret H. Blake,** feeder-folder to clean linen distributor.

(Continued on page 6)



Mrs. Eleanor Bemberg, director of the Auxiliary's "Reach to Recovery" program, visits a patient recovering from a mastectomy operation. At the request of a patient's doctor, the counselors will visit such patients and explain the "Reach to Recovery" program.

Auxiliary Program Provides Help For Mastectomy Patients

Mastectomy, which involves removing all or part of the breast, is often one of the most traumatic operations a female patient can undergo. Although the procedure is serious enough from a strictly physical viewpoint, the psychological side-effects may seem of even greater consequence.

With this in mind, Barnes Hospital's Auxiliary began its "Reach to Recovery" program one year ago this month, hoping to aid in the physical, mental and emotional recovery of mastectomy patients.

Partially sponsored by the local chapter of the American Cancer Society, "Reach to Recovery" is modeled after similar programs which began in the east, says Mrs. Eleanor Bemberg, who directs the program.

"After a mastectomy, a woman may feel that she is no longer a full woman. It is seen as a calamity by most people, who often feel that their world has collapsed. We convince them that they can be just as attractive as before the operation," Mrs. Bemberg says.

"Reach to Recovery" volunteers must have the doctor's written approval (on a special form) before visiting a mastectomy patient. Once the approval has been received, Mrs. Bemberg selects a volunteer from among the 12 available to counsel the patient.
The volunteers, all of whom are given several hours of training before they are allowed to take part in the program, are matched as closely as possible with the age and background of the patient, Mrs. Bemberg says.

Patients are given a special kit, furnished by the American Cancer Society, which contains information about the operation for both the patient and her family, descriptions of exercises essential to proper recovery, exercise equipment, and information about prothestic devices.

The volunteer may also demonstrate exercises prescribed by the doctor. "We aren't trying to replace any medical care," Mrs. Bemberg emphasizes, "we are adding another service to help the patient recover. We only wish more doctors would take advantage of the program."

The volunteers attempt to discover the patient's interests and convince her that the operation will not interfere with them. "We try to get people out of the depression they often fall into after the operation," Mrs. Bemberg says. Patients are told—and shown—that with modern prosthetic devices and clothing styled especially for those who have undergone a mastectomy, their appearance will be as good as ever, even in a bathing suit.

Depending on the patient, one or several visits may be necessary before the volunteer is satisfied with the patient's progress. Occasionally a discharged patient will return here for more counseling with the "Reach to Recovery" volunteers. "And, a lot of people call and thank us. We feel we've really helped them and their response indicates that they do too," Mrs. Bemberg says.

Several other hospitals in the St. Louis area have contacted Barnes' Auxiliary for help in starting similar programs of their own. In the near future, even more volunteers will be added to Barnes' "Reach to Recovery" group, Mrs. Bemberg predicts. Anyone interested in more information about the program should call the Auxiliary office.

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Constance C. Barton, Director
Larry Myers, Associate Editor

Nursing: A Changing Profession

A highly skilled technician capable of doing some of the jobs formerly handled only by a physician . . . A "patient advocate" who must communicate the complex personal needs of the patient both to those who operate the hospital and to others who actually care for the patient . . . An administrator who must reconcile the demands of many different bosses as well as handle large amounts of paper work . . . A professional who helps solve the physical—and emotional—problems of the patient.

The registered nurse is often all of these things and more, for the role of the nurse is changing rapidly. Recent advances in medicine made possible by space-age technology demand that the nurse be adept at performing a host of technical functions which are essential to the welfare of the patient.

Simultaneously, the modern nurse must maintain and, indeed, improve upon the traditional "humanitarian" role. This "human" side of nursing involves art as well as science, and is also essential to the patient's well-being, mental and physical.

If the above changes weren't enough, nurses' managerial functions have been expanding too. It is not uncommon for head nurses to supervise three dozen nursing care personnel. And the amount of paperwork required of a nurse has multiplied in recent years as well.

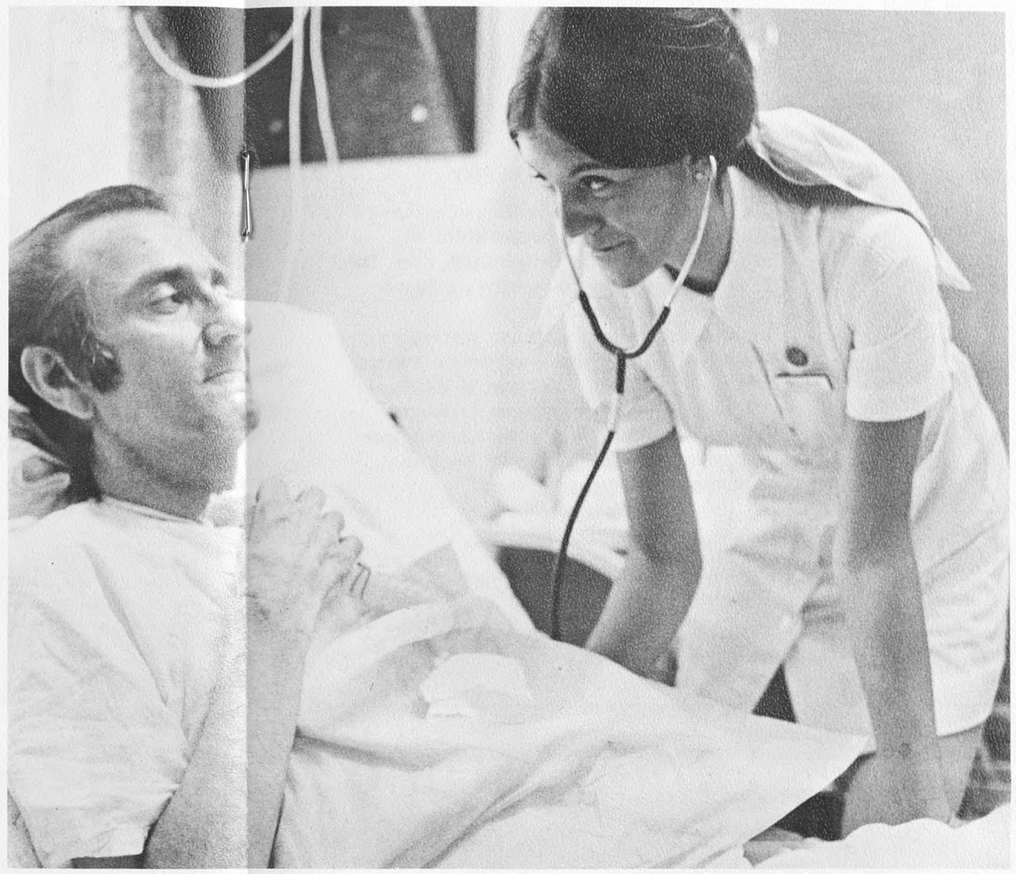
"Nursing is much more technical now than it was in the '40s when I started nursing," says Joyce Brueggeman, Barnes associate director of nursing services. **Miss Brueggeman points out that not only has complex, computerized equipment flourished in the post-Sputnik age, but medical procedures themselves have become more complicated, with the introduction of things like IV-addative medications and central venous pressure readings.**

"Superimposed on this sophisticated technology you have to understand much more about physics, chemistry and psychology than you did in the past," Miss Brueggeman says. Consequently, nursing education has undergone many changes in order to keep pace.

"There is more emphasis on theory and less on repetitive skill practices," says Joan Hrubetz, director of the Barnes School of Nursing. "Now, philosophically, many nursing educators believe that the nurse should be taught the principles behind the practice in nursing school, and with that background, be able to pick up the practical skills easily," she says.

At Barnes' nursing school at least, rote memorization of huge blocks of facts is on the decline. "Let me call them thinking nurses, as opposed to memorizing nurses. Now nurses do not memorize everything, but learn how to work their way through," Miss Hrubetz says.

But advances in medical theory and technology are not without their problems. "One of the dangers of getting involved with too much technology is becoming machine-oriented instead of patient-oriented," Miss Brueggeman cautions. Particularly in intensive care units, there may be a tendency to depersonalize the patient.



While a multiplicity of complex equipment has become the norm, particularly in intensive care units, the "human" side of nursing is just as important as ever, perhaps even more so. RN Pat Ugo decided to work in the hospital's inhalation therapy care unit because it offered her the opportunity to increase her technical skills as well as work with patients on a close, one-to-one basis.

Paper work, as RN Connie Lynn Headlee well knows, is still a part of a nurse's lot despite efforts in recent years to turn much of it over to non-nursing personnel.

Advanced surgical techniques, such as open-heart operations, have meant new challenges to nurses who must understand such techniques and their implications in order to provide the patient with the best care.

To combat such mechanistic attitudes, many nursing schools—and hospitals—are stressing the importance of the "human" side of nursing. "Nursing has always been concerned with other than the strictly medical aspects, but we didn't recognize the full implications of such matters. Now the nurse is taught how to take account of and intervene in such areas," Miss Hrubetz says.

Toward that end, one of the first things Barnes' student nurses do is visit floors just to talk with patients under the watchful eye of their instructors. "It is not just social small-chat. We are trying to teach them to adjust to the patient's feelings," says Miss Hrubetz.

Such training means that today's nurses are often more astute observers of the patient than their peers of the past. Skills in patient communication combined with scientific advances have made the nurse a better nurse, able to care for the patient to his greatest advantage, Miss Brueggeman believes.

"You must have the knowledge of the communications skills and principles in the first place, but you must apply them yourself because each patient is an individual," says Pat Ugo, a June graduate at the hospital's nursing school who works in the Inhalation ICU. Effective communication with the patient, she feels, must come from inside each nurse.

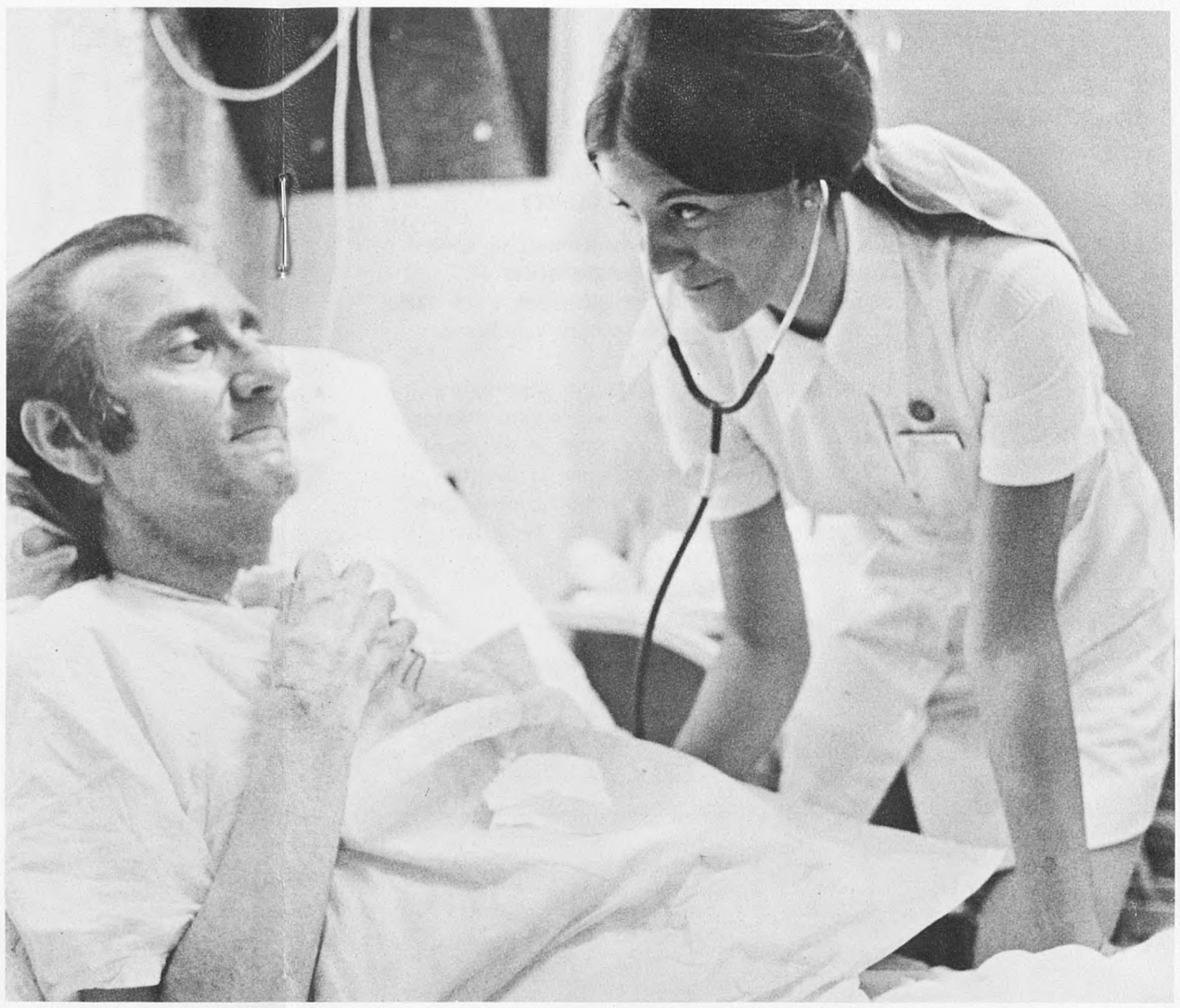
The nurse must also be able to communicate well with people other than patients, including doctors, other nurses and hospital administrators. "The nurse is the center of communications from many different sources. But ultimately, the communications must all be directed toward the patient's benefit," Miss Ugo feels.

In the role as a focus of communications, nurses must be able to resolve and satisfy the demands of the doctor, the administration and their own dedication to the patient.

"One method that is being tried more and more frequently at many hospitals is patient care committees made up of nurses, doctors and administrators. They try to work out ways to improve patient care and iron out any problems that exist," Miss Brueggeman says.

A head nurse may also be responsible for communicating with 30 to 40 subordinates, including other RNs, LPNs, nursing assistants and others. Naturally, such a managerial role involves a great deal of paper work. Even nurses

ging Profession



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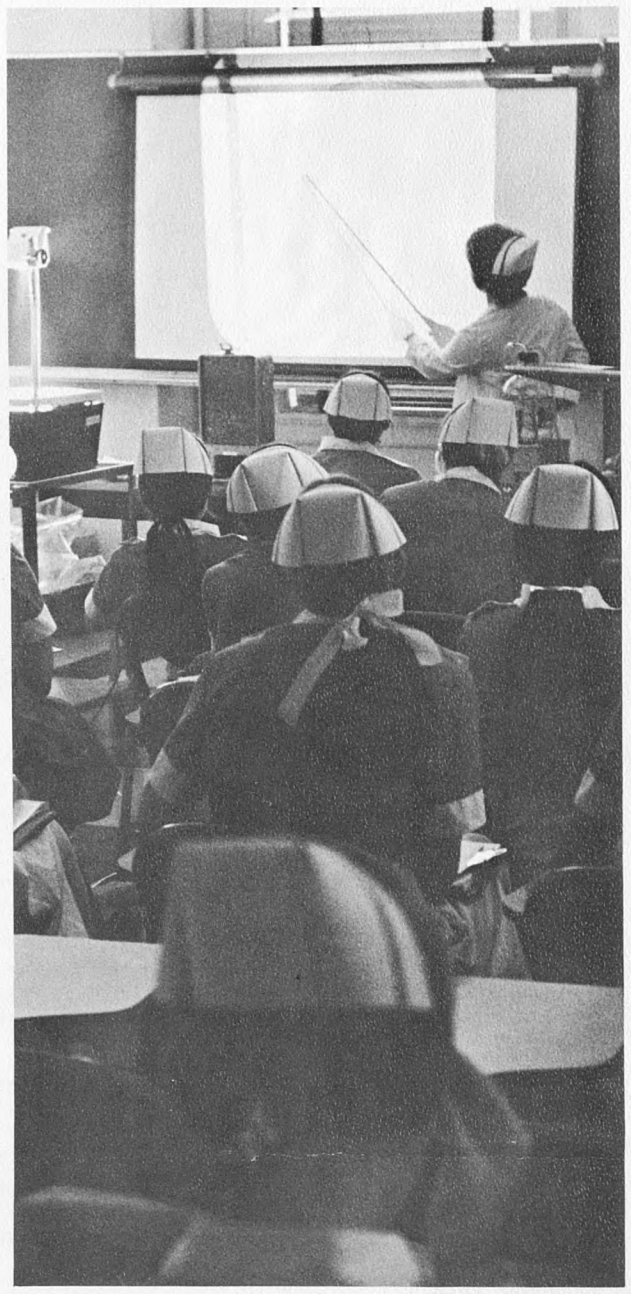

Barnes' nursing students are spending more time in the classroom than in the past, as the main thrust of nursing education has shifted from a practical to a more theoretical orientation.

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A head nurse may also be responsible for communicating with 30 to 40 subordinates, including other RNs, LPNs, nursing assistants and others. Naturally, such a managerial role involves a great deal of paper work. Even nurses in non-supervisory positions often spend two hours a day filling out charts and other paper work on patients.

At Barnes, much of the routine paperwork has been turned over to ward clerks and floor managers. Much paper work can be handled by non-nursing personnel, but must be approved by the appropriate nurses.

"In a sense, the nurse has been pulled away from direct patient contact by paperwork. We're trying to move them back to the bedside," Miss Brueggeman says.

Typical vertical promotion patterns have also tended to lure nurses away from the bedside. "If you want to get anywhere in nursing, you usually have to move up the ladder to jobs that get you further away from the patient. Nursing is now trying to create a more horizontal promotion pattern to accommodate career advancement and still retain patient contact," Miss Brueggeman says.

Patients, it seems, still feel that there is no replacement for the personal care that only a skilled nurse at their bedside can provide.

Barnes Nursing School Assit. Director Retires

Mrs. Grace Coleman, assistant director of the Barnes School of Nursing, was honored with a reception and tea upon her retirement last month. Mrs. Coleman, who came here in 1955, was presented with a certificate of appreciation and several going away gifts. From left: Mrs. Coleman; Walter Hanses, personnel director; Joan Hrubetz, nursing school director; and Robert E. Frank, Barnes Hospital Director.

-Promotions-

(Continued from page 3)

NURSING

Susan Hackman, director of nursing service to hospital associate director and director of nursing; **Bonnie Cassells,** staff nurse to assistant head nurse; **Peggy Cooper,** staff nurse to assistant head nurse; **Anamary Staikoff,** assistant head nurse to head nurse; **Thelma Chapman,** staff nurse to instructor.

PHARMACY

Don W. Burcham, pharmacy aide to pharmacy technician.

SAFETY & SECURITY

John R. Clark, security watchman to canine watchman; **Richard James Mansfield Jr.,** supervisory watchman to assistant chief; **Dale E. Bailey,** assistant supervisory watchman; to supervisory watchman;
David J. McCluskey, assistant supervisory watchman to supervisory watchman; **Clinton Mobley Jr.,** security watchman to assistant supervisory watchman; **William L. Smith,** security watchman to assistant supervisory watchman; **Douglas B. Lincoln,** security watchman to canine watchman.

SOCIAL SERVICE

Patricia M. McKevitt, social worker I to social worker II; **Evelyn E. Bonander,** associate social service director, to acting director; **Catha Jean Cowgill,** social worker I to social worker II.

June Gifts to the Barnes Hospital Tribute Fund

Following is a list of honorees (names in boldface) and contributors to the Barnes Hospital Tribute Fund During June, 1972.

In Memory Of

Leo Stone

Hillsboro Community Teachers Association
Employees of Hillsboro Elementary School

Marvin Deutsch

Mr. and Mrs. Benton Taylor
Commerce Bank of University City
Lawrence H. Lucas
Bob and Mary Jane Jones
Harry and Jean Freeman
Stiarwalt Electric Company
The Bernsteins
The Kellers
The Mass Family
The Weiss Family
The Goldstein Family
The Krapfel Family
The Griffin Family
Mr. and Mrs. Steven Simkin
Dr. Robert B. Deitchman in behalf of Sally and John Deitchman, Cindy Skolnik, Vicki Saffa, Gayle Hitt, Susie Dardick, Janis Commenski, Debbie Satonovsky, Julie Fremder and Terri Cohen
Mr. and Mrs. Edward H. Givens

Mr. Paul C. Ford

Mr. Wm. Benton McMillan

Mrs. Elsie Strauss

Mr. and Mrs. John M. Friedman

Mrs. John H. Overall

Mrs. Maude Scudder Conner
Mrs. John A. Holmes

Corinne Hammond

National Vendors, Plt. 2

Dr. H. R. McCarroll Sr.

Mrs. Charles E. Bascom

Electa Arthur

Thelma Winters

Violet Frank

Mr. and Mrs. Dale Mehrtens
Mr. and Mrs. Herman Louer
Mary Ellen Salelman
Carl E. Schueler Jr.
Carolyn Houser
Mr. and Mrs. David Bound and Family
Mr. and Mrs. Charles Crowder and Family
Mr. and Mrs. Thomas Kocher
Mr. and Mrs. Dewey Smith and Family
Mr. and Mrs. Paul Smith and Family
Mr. and Mrs. Paul Snider and Family

Danny J. Menser

Charles Sherman

Mrs. Edwin S. Johnston

Mr. and Mrs. Charles E. Claggett

Esterbrooks T. Masters

Miss Gertrude McDonald

F. J. Pollnow

Mr. Fred A. Hermann

Evelyn Fendelman

Mr. and Mrs. Darwin Portman

Mrs. Helen B. Schlueter

Mr. and Mrs. Kenneth L. Gable
Barnes Hospital Auxiliary
Mrs. William G. Moore Jr.
Mrs. Marjorie Copher White
Mrs. Frank Middleman
Mrs. George L. Minor Jr.
Mrs. Spencer Allen
Mr. and Mrs. W. V. Baron
Eleanor Hasting
Anita Welge
Mrs. Dorothy Kane
Alma Dahlin
Geneva Keller
Mabel Cohn
Martha Seewir
Dorothy Hollenbeck
Fred Brueggenhagen
Eve Walters
Mrs. Lucy Walsh
Ann Kouschar
Mildred Atkins
Nancy Lich
Mary F. O'Brien
Lettye McCombs
Emily Wetta
Elizabeth Bennett
Hilde Bueheim
Virginia Ameiss
The Pickle Club
Margaret B. Morey
Mrs. Julia N. Anderson

In Honor Of

Cardiac Care Unit Staff

Mr. Hyman G. Stein

Mr. and Mrs. Leonard Horbein's 50th Wedding Anniversary

Mr. and Mrs. Jesse S. Myer Jr.

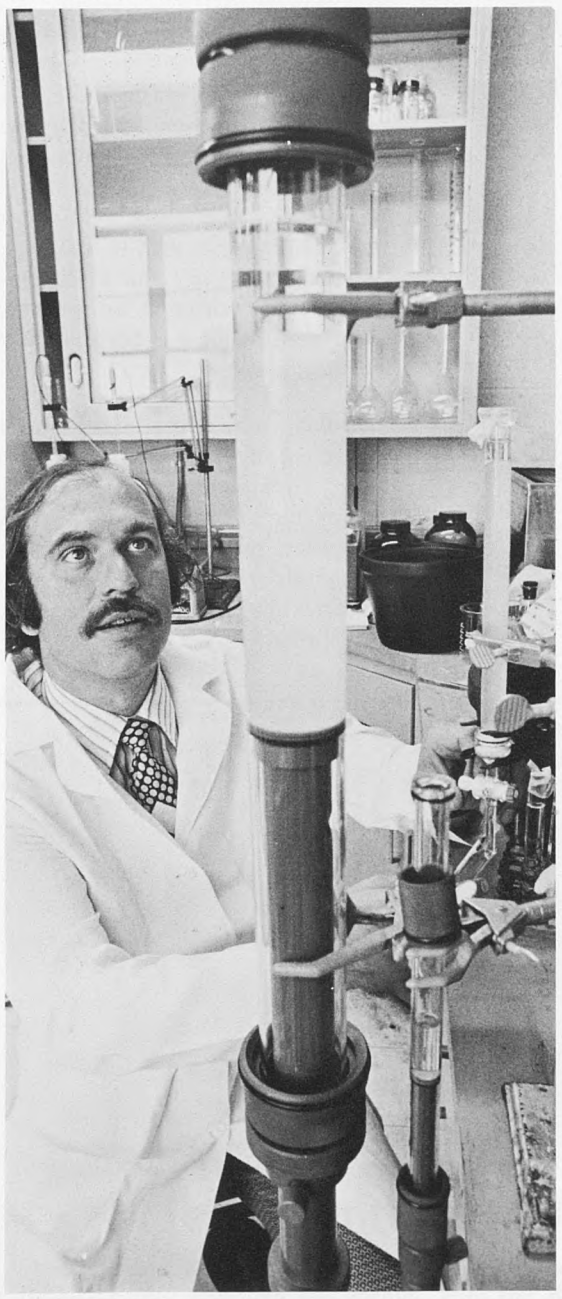
Anonymous

Research technician Carol Mehlman works at the controls of a liquid scintillation spectrometer used in cancer research.

Research Seeks Cause of Cancer's Wild Growth

Cancer cells, unlike healthy cells, reproduce at a wild, apparently uncontrolled rate, overtaking normal cells in their path. Such growth is, in fact, a commonly used test for malignancy. Dr. Phillip Majerus, Barnes associate physician, working under a $78,000 grant from the American Cancer Society, is seeking to determine the cause of this promiscuous growth in hopes of discovering means of controlling it.

Normally, organ-directed cells such as those from the liver or kidney, will segregate themselves by type. For example, if healthy liver and kidney cells are isolated and then mixed in a cell culture, after a short period all of the liver cells will "recognize" each other and cluster together, avoiding the kidney cells. In turn, the kidney cells will cluster together, avoiding the liver cells.



Dr. Philip Majerus adjusts one of the dozens of pieces of delicate equipment involved in his research on cell surface characteristics.

It appears, says Dr. Majerus, that the cells "identify" each other on the basis of certain characteristics of their surfaces. Each type of cell has surface characteristics unique to that cell type and no other. But tumor cells apparently have abnormal cell surface characteristics.

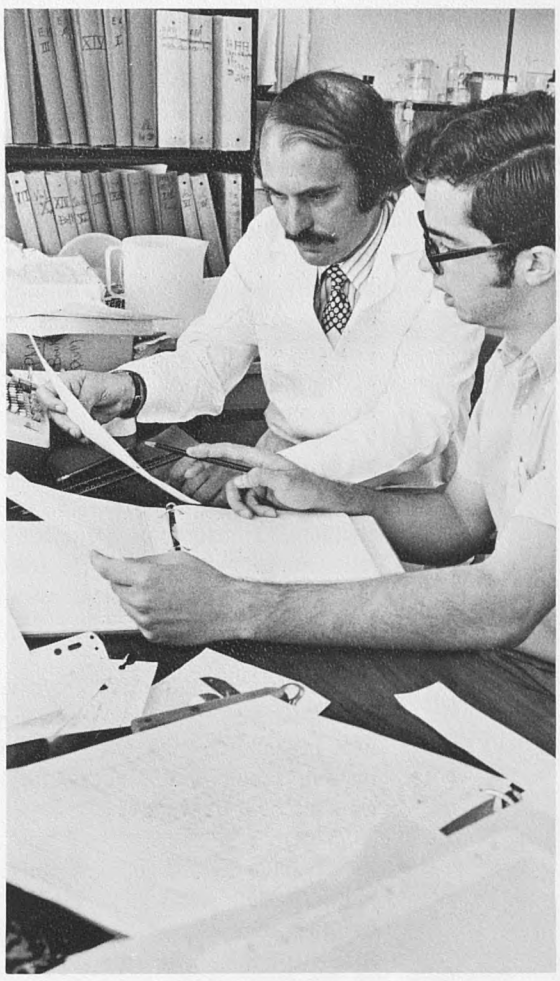
Instead of recognizing and seeking proximity only with tumor cells, cancerous cells show no inclination to avoid other cells. They appear to have lost their "social desire" to remain with their own kind, Dr. Majerus says.

Dr. Majerus and his staff of researchers are attempting to develop techniques to "map" the surface of normal and cancerous cells. A "map" of the cell surface would show the type and location of the molecules which comprises the cell surface and apparently convey the cell's identity. Such maps should make it possible to identify the early changes in malignant cells and aid scientists in the search for drugs to halt such changes.

Because most animal cells are so small—millions could fit on the head of a pin—mapping the surface of an individual cell is not usually possible, even with the aid of powerful electron microscopes. Therefore, a complicated procedure, involving two basic steps, is required to make visualization possible.

First, special chemicals called phytohemoglutinans, (which are derived from plants) that show an affinity for attaching themselves to the molecules that form the cell's surface, are chemically attached to large, heavy iron molecules which are easily viewed with an electron microscope. This is one of the most difficult parts of the operation, Dr. Majerus says, because the iron molecules must be bound to the proper location—and in exactly the same position—on every phytohemoglutinan molecule. If this binding is not done properly, the procedure will not be successful.

Next, the combined phytohemoglutinan-iron molecules are applied to the cell under examination. The cell is then placed under the electron microscope which makes the iron molecules visible. Thus, the researcher can see the iron molecules, which are a map of the binding agent molecules to which they are attached, which, in turn, are attached to the cell surface molecules. The number and location of the molecules is then recorded.



Dr. Majerus (left) and David Chaplin, a student assistant, go over some of the many pages of figures that are being generated by the research program.

The result is a map of the cell's surface. Initial studies here are being carried out to map the surface of human blood platelets. Ultimately the maps of normal cells and malignant cells will be compared to discover why the tumor cells fail to exhibit a distaste for contact with cells having a different surface. The molecular maps may also facilitate studying the effects of various drugs on malignant cells. Substances may be found which will restore the normal contact inhibition a cancer cell appears to lose, thus preventing the spread of malignancy.

Dr. Majerus emphasizes that his research, a continuation of a 5-year-old grant from the cancer society, is seeking a means of controlling or halting the growth of existing tumors, rather than preventing them.

DOCTOR'S NOTES

■ Dr. Virgil Loeb Jr., Barnes assistant physician in hematology, served as a section chairman at the National Conference on Cancer Chemotherapy, held June 1-3 in New York City. The conference was attended by more than 2,000 physicians and scientists and was co-sponsored by the American Cancer Society and the National Cancer Institute.

■ Drs. Bevra Hahn and C. Kirk Osterland, Barnes assistant physicians in preventive medicine, reported to the 36th annual meeting of the American Rheumatism Association that tests in mice with kidney disease similar to systemic lupus erythematosus showed that the drugs azathioprine and prednisolone, when used in combination, suppressed (although they did not cure) the kidney disease.

■ Dr. Herman N. Eisen, microbiologist, has received a two-year, $90,000 grant from the American Cancer Society to extend his research on possibilities for producing immunity to tumors.

■ Dr. Oliver H. Lowry, pharmacologist, has received a one-year, $62,188 grant from the American Cancer Society for research on cell types in the brain and brain tumors.

■ Dr. Robert Ratcheson, Barnes chief resident in neurological surgery, has been awarded the William P. Van Wagenen fellowship for 1972 by the American Association of Neurological Surgeons.

The fellowship—to support study in a foreign country by a doctor who has completed residency and intends to pursue a career in neurosurgery—will allow Dr. Ratcheson to spend one year at the University Hospital, Lund, Sweden.

The award was established by the widow of Dr. William P. Van Wagenen, founder and first president of the organization that later became the American Association of Neurological Surgeons.

■ Dr. Charles Janda, a former Barnes resident, discussed facial plastic surgery before a recent meeting of the Downers Grove (Illinois) graduate nurse's club. The club is composed of graduate nurses from the area.

■ Dr. James H. Foster, a former Barnes intern and currently director of surgical services at the Hartford (Conn.) Hospital, presented a lecture on breast cancer treatment at an American Cancer Society seminar on March 23. The seminar was held at Middlesex Memorial Hospital, Middletown, Connecticut.

■ The Director's office has announced that the following persons have joined the Barnes Hospital staff; Drs. Fletcher T. Ott and Carl F. Ehrlich, assistant otolaryngologists; Drs. Thomas F. Martin, Owen S. Kantor, Anton C. Schoolwerth, and John Walls, assistant physicians; Drs. Amos Welner and Boyd K. Hartman, assistant psychiatrists; Dr. Lawrence Cobb, assistant anesthesiologist; Drs. Robert D. Lins, Warren Sherman, and Penelope G. Shackelford, assistant pediatricians; Dr. Bruce A. Lucas, assistant surgeon.

427-Car Parking Garage Nears Completion

Structural concrete for the final level of the hospital's new 427 car parking garage was completed in late July. The building will be open for business soon. The exterior of the structure is done in rough-finished concrete to provide an unusual visual texture.

Attracted by Barnes' Reputation

New Graduates Begin Internships Here

More than four dozen newly graduated physicians, including 14 from the Washington University School of Medicine, began their internships at Barnes on July 1. The new interns will spend the year studying various disciplines under the tutelage of the Barnes staff.

The caliber of the men and women who chose to intern at Barnes this year reflects the hospital's reputation throughout the United States and in other countries as well. For example, Dr. Herbert Cantrell, interning in medicine, is from London, England, and Dr. Raul Garza Garza, pathology, is from Monterey, Mexico.

Today's interns frequently have a rather broad background by the time they get their MD degree. Typical is Dr. Andrew Drexler, who spent the first half of this year working with x-ray crystallography of packed sickle cells in an attempt to determine the reasons for the amino acid changes in the hemoglobin that lead to sickling. In the summers of 1969 and 1970, he studied the effects of morphine on nerve cells at the Marine Biological Laboratory at Woods Hole, Massachusetts.

Medical school graduates and hospitals are matched by the National Internship Matching Program's computer in Evanston, Illinois. There the students' preferences as to the hospitals they would like to work at and the hospitals' preference among the available interns are collated electronically by the computer.

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